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EXAMINER ROBINSON, LAUREN E				
ART UNIT		PAPER NUMBER		
1794				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

# Office Action Summary

**Application No.**

10/563,917

**Applicant(s)**

BARTON ET AL.

**Examiner**

LAUREN ROBINSON

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-10, 25 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-24, 26 and 28-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/5/2006, 1/10/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-10, 25 and 27, drawn to an article.

Group II, claim(s) 11-24, 26 and 28-32, drawn to an article.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The technical feature present in all groups is a glazing comprising a pane of tinted glass. However, as disclosed below, a glazing having a pane (sheet) of tinted glass is well known and taught in the art. Therefore, the technical feature is not the applicants' contribution over the prior art and the groups lack unity of invention.

During a telephone conversation with Matthew Schneider on June 26, 2008 a provisional election was made with traverse to prosecute the invention of Group II, claims. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-10, 25 and 27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Claim Objections***

Claim 29 and 31-32 is objected to because of the following informalities: Claim 29 is objected to because the claim recites that “an outerply of tinted glass and inner ply or clear glass carrying a low emissivity coating.”. It is the examiner's position that or was really meant to be **of**. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is rejected because the claim recites that each ply can be 5mm but yet the claim is dependent on claim 14 which recited that the laminate glazing of claim 11 has an overall thickness of a maximum 10mm. The examiner notes that it is unclear how the glazing of claim 11 can be comprised of two plies and two layers in between can have a total thickness of a maximum 10mm when both plies alone can each have a thickness of 5mm. This would mean that the two layers between the plies would not be capable of having a thickness.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 11, 13, 16, 19-20, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Byker et al. (US PN. 6,446,402).

Byker et al. teach a laminated glazing (abstract, Figures) which can be used in vehicles. The reference also teaches that the laminated glazing can be comprised of two plies of glass (Col. 15, lines 30-45) with an interlayer sheet laminated between (Col. 15, lines 30-45). Further, the plies are illustrated as 20 and 21 in the figures and the glazing has a low emissivity film on an interior surface of the glazing as represented by 70 (Figure 1c, Col. 24, lines 24-35). They teach that the glass plies and/or the interlayer material can be body tinted can be tinted (Col. 15, lines 54-60,) (**Claims 11 and 30**).

The reference also teaches that the interlayer material can be body comprised of polyvinylbutyral (Col. 11, lines 10-44, Example. 4) (**Claims 13, 16**) and that materials can be present within the interlayer that absorb near infrared radiation (Col. 18, lines 43-67-Col. 19, lines 1-5) (**Claim 19**). Byker et al. also teach that when the plies are glass, then the plies can be chosen to be tinted as discussed or clear (Col. 14, lines 51-58) (**Claim 20**).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14-15, 17-18, 23-24 and 26 are rejected under 35 U.S.C. 103(a) as being obvious over Byker et al. (US PN. 6,446,402).

**Regarding claims 14-15:** As discussed, Byker et al. discloses a laminated glazing for vehicles as disclosed in claim 11. The reference also teaches that the glass plies can each have a thickness of between 20 micron to 8 cm (Col. 15, lines 45-50), the interlayer can have a thickness of 0.001 to 0.1cm (Col. 14, lines 1-10), and that a barrier layer can be applied therein having a thickness of 100 to 1000nm (Col. 17, lines 60-65). However, *they do not disclose the overall glazing thickness with the low E coating included.*

While the reference does not specifically disclose the above limitation, the examiner notes that it is known in the art that thickness of an overall glazing is affected by the thickness of layers within and said layer thickness is a result effective variable as it is known in the art that if the thickness of the layers was adjusted, the optical and/or physical properties of the overall glazing will change and through the optimization of layer thicknesses, which will in turn change the overall glazing thickness, desired properties can be obtained. For example, it is known in the art that the thickness of layers such as the low E coating, colored interlayers, barrier layers that absorb certain wavelengths as disclosed in the reference, etc. within a glazing affect the manner in which light is reflected, absorbed, etc. and the reference discloses that the substrate thickness affects the flexibility of the glazing (Col. 15, lines 45-50). From this, one of ordinary skill would recognize that if one desired to change the physical and or optical properties of the glazing, they could do this by optimizing the thickness of each layer

within the glazing which would in turn optimize the final glazing thickness and through routine experimentation one can obtain said results. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Byker et. al. to include that the thickness of each layer can be optimized to any value, including values that would produce the applicants' overall thickness, in order to obtain any desired optical results, such as reflection/absorption within the glazing **(Claims 14-15)**.

**Regarding claims 17-18 and 23-24 and 26:** Byker et al. also teach that the interlayer can have an absorbing material which absorbs both infrared and visible transmission and the amount of material provides for the interlayer to absorb 50% or more of both visible and infrared (energy) transmission (Col. 18, lines 58-67- Col. 19, lines 1-5). While the reference merely includes that 50% or more of the visible light transmission and 50% or more of the energy transmission is absorbed, the examiner notes that one of ordinary skill in the art would recognize that the percentage of each radiation not absorbed is the percentage transmitted. Therefore, the reference allows for 50% or less visible light transmission and 50% or less energy transmission which overlaps the applicants' claimed ranges and therefore, provides a prima facie case of obviousness. See *In re Wertheim*, 541 F.2d 257, 191USPQ 90 (CCPA 1976) **(Claims 17)**.

Further, as discussed, the interlayer is taught to have a thickness of 0.001 to 0.1cm and the examiner notes that this range includes the applicants' claimed 0.76mm thickness and therefore, the reference including that an interlayer this thick can have a %visible and energy transmission of 50% creates a prima facie case of obviousness for the same reason as included above **(Claim 18)**.

Also, the examiner notes that if a layer within a laminate has a certain value for the above % transmission parameters for both energy and visible, then it would be recognized that overall laminate would have the same values or less than that of one layer therein. This is due to it being known that a laminate having a specific transmission illustrates that this is the % of radiation for both visible or energy that was able to travel through the entire laminate. However, if a layer within a laminate only allows, for example 50% or less of both visible and energy transmission and absorbs 50% or more of the remaining radiation as discussed, then only 50% or less (whatever amount not absorbed) will be the only radiation left to travel and finish transmission through the entire laminate. Therefore, it would be recognized that the overall laminate would also have 50% or less visible and energy transmission which overlaps the applicants' claimed ranges. See *In re Wertheim*, 541 F.2d 257, 191USPQ 90 (CCPA 1976) (Claims 23-24 and 26).

**Regarding claims 29 and 32:** As the above teaching is disclosed and the reference teaches as discussed, that the two glass plies can be either tinted or clear and the glazing can be used for a vehicle, the reference *does not specifically disclose that the outer ply is tinted using an inner ply with the low E coating therein being clear.*

While the above limitation is not discussed, the examiner notes that the reference teaches in one example that the laminate has a tinted glass substrate facing the outside of the glazing (sun exposure) and the inner ply is the glass with the low E coating (conceptual example 2). Although, the low E glass is not specifically included as being clear and the reference desires to have a tinted glass closest to the outside in order to



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absorb UV energy, it is the examiner's position that it would be recognized in the art that having the ply closest to an individual within a vehicle, for example, being clear would be advantageous since it would allow for enough visible light to pass through. For example, it would be recognized that if both plies were colored, then the glazing would be even darker than if only one was tinted and this would affect the level of visibility of one to see out and since it is known that having enough visibility to see out of a vehicle is desired in the art, then one would recognize that if the outer ply is tinted while making the inner ply clear would provide for the level of darkness to be controlled so that one can have better visibility out the window, while the window is still able to absorb UV light traveling in the window. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Byker et al. to include that while the outer ply can be tinted, it would be advantageous to make the inner ply clear as it would aid in the control of the glazing darkness such as allowing one sitting inside the vehicle to have enough visibility to see out while still having enough tint on the outer side of the glazing to absorb UV radiation from the sun coming into the vehicle **(Claim 29)**.

Further, as discussed, the overall glazing will have a energy transmission of less than or equal to 50% due to the amount of energy absorption provided by the interlayer and the glazing will also have a visible transmission of 50% or less due to the same interlayer. However, the reference *does not specifically disclose that the glazing has a visible transmission of at least 15% and a total solar energy transmission not greater than 15% greater than its light transmission.*

Although the above limitation is not disclosed, the examiner notes that as discussed, the reference desires to have solar energy (heat) absorption which is provided by the tinted materials and the examiner notes that the reference teaches that the tint that provides the UV absorption also absorbs visible radiation (Col. 18, lines 60-67-Col. 19, lines 1-65). Also, it was discussed that it would be recognized that while it is advantageous to have UV absorption, and therefore limit the amount of heat radiated into a vehicle, one would realize that the visible transmission would be affected and one would recognize that since visible transmission for one to see out of a glazing is beneficial, then attempts would be made to try to obtain high heat transmission but allow for just enough visible transmission desired by one with ordinary skill.

Furthermore, the examiner notes that while it would be recognized to adjust the heat transmission and visible transmission for the above purpose, one would know that these optical properties are result effective variables as they can be changed by the thickness and UV absorbing material composition of each layer within and through routine experimentation, desired optical properties can be obtained. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Byker et al. to include that while UV absorption is desired in the reference, one would desire to have enough visible transmission therein and they could adjust the ratio to any value by optimizing the composition of UV absorbing material and thickness of layers within to any values, which will produce any desired ratio of visible to heat transmission including the applicants' values, in order to obtain enough UV absorption for the

purpose of the glazing while maintaining enough visible transmission for one to see out (Claim 32).

3. Claims 12, 21-22 are rejected under 35 U.S.C. 103(a) as being obvious over Byker et al. (US PN. 6,446,402) as applied to claim 11 in view of Higby et al (US Pub. 2002/0025899).

**Regarding claim 12:** As discussed, Byker et al. teach a laminated glazing as claimed in claim 11. Also, the reference teaches that the glass plies can be tinted as discussed. However, the reference *does not teach that the tinted glass has a colourant portion including 0.5 to 4% by weight of the glass of total iron calculated as Fe<sub>2</sub>O<sub>3</sub>.*

Higby et al. teach UV absorbing glass of neutral tint that provides sufficient visible transmission (abstract). The reference teaches that the tinted glasses can be used for glazings for vehicles (0002) and that it was provided with 0.3 to 0.7% total iron calculated as Fe<sub>2</sub>O<sub>3</sub> (Claim 11), wherein 21% of said total is ferrous (FeO) (0010) which corresponds to around 0.15% by weight of glass being of FeO. Also, the reference teaches that 3 to 25 ppm cobalt oxide calculated as Co<sub>3</sub>O<sub>4</sub> can be added as well to provide color (Claim 11). They teach that compositions having neutral tint (0006) allows for at least 70% visible transmission and a transmitted energy of at least 12% lower than the above visible (58% or lower transmitted energy).

Byker et al. and Higby et al. disclose analogous art related to tinted glass glazing used in vehicles. From this, it is the examiner's position that if one desired to have neutral color tinted glass glazings in order to allow for enough visible transmission but still have low UV transmission, they would find it advantageous to use the glass

composition taught by Higby et al. Also, the examiner notes that Byker et al. does not limit that visible transmission has to be low in the glass plies and as discussed, one would recognize from Byker et al. that glass plies would advantageously have enough visible transmittance to see out. Therefore, one would also recognize that while the ply is still colored in the reference, it could have the advantage of being visible transmissive by using the composition of Higby et al. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Byker et al. to include the glass composition of Higby et al. in order to produce a colored tint that provided UV absorption but also allowed for visible transmission to see through the window (**Claim 12**).

**Regarding claims 21-22:** As discussed, the reference now discloses that applicants' composition of claims 21-22 with the applicants' claimed amounts. However, the reference *does not specifically disclose the glass of this composition having the applicants' claimed visible transmission and an energy transmission when the glass is at a thickness of 2.1mm as claimed.*

While the above limitation is not disclosed, the examiner notes that the claim merely recites that the glass with the claimed composition when placed at a thickness as claimed will have the transmission properties. Therefore, the examiner notes that the glass in the reference does not necessarily have to have the claimed thickness but merely be capable of having the claimed properties at that thickness. The reference's composition of the glass as modified is now the same as the applicants' composition and although it does not specify values within, it is the examiner's position that the glass

will have the same properties as the applicants' when subjected to the same conditions. For example, if the modified glass in Byker et al. was subjected to having a thickness of 2.1mm, then it would inherently have the applicants' transmission properties (**Claims 21-22**).

4. Claim 28 and 31 are rejected under 35 U.S.C. 103(a) as being obvious over Byker et al. (US PN. 6,446,402) as applied to claims 11 and 29, in view of Baudin et al. (US PN. 4,910,088) .

As discussed, Byker et al. teach the glazing laminate of claims 11 and Byker et al. was modified to include the limitations of claim 29. However, the reference *does not teach that the laminated glazing that can be used as a vehicle glazing can be used as a windscreen or that the low E coating is a pyrolytic coating*.

Baudin et al. teach vehicle windows (title) such as a glazing vehicle window which can be in laminate form. They teach that laminates such as these wherein the laminate is comprised of two glass sheets laminated together wherein one sheet has an outer coating therein, has the capability to retain broken fragments of glass if glass therein ever breaks and therefore, provides safety which is advantageous for use in vehicle windscreens (Col. 4, lines 35-53).

Also, Baudin et al. teach that the coating on the external side of one of the above sheets is a low emissivity coating (abstract) and that the low E coating should be a pyrolytic coating due to these types of coatings providing for low diffuse light transmission (Col. 4, lines 59-64).

Byker et al. and Baudin et al. are related due to both teaching window glazings used in vehicles. Also, both teach that the glazing is a laminated of two glass plies laminated together with a low E coating on one sheet. Although the low E coating is different, one of ordinary skill in the art would recognize from Baudin et al. that a laminate with the structure of Byker et al. would be able to function in the same safety manner as above and therefore, it would be obvious to at least try the glazing for the applications of a windscreen and that since Baudin et al. teaches that low E coatings in general, not limited to tin oxide, should be pyrolytic as it provides for low light diffusion, one would recognize that it would be at least obvious to try to make it pyrolytic as low light diffusion is advantageous for low E coatings as known in the art. As such, it is the examiner's position that it would have been obvious to one of ordinary skill in the art at the time of invention to try and modify Byker et al. to include that the laminate glazing can be used as a windscreen in order to provide a windscreen structure with safety characteristics and that the low E coating can be made pyrolytic in order to obtain low light diffusion on the surface of the glass sheet within the laminate (**Claims 28 and 31**).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAUREN ROBINSON whose telephone number is (571)270-3474. The examiner can normally be reached on Monday to Thursday 6am to 4pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-2721284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lauren E. T. Robinson  
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